FIG. 1

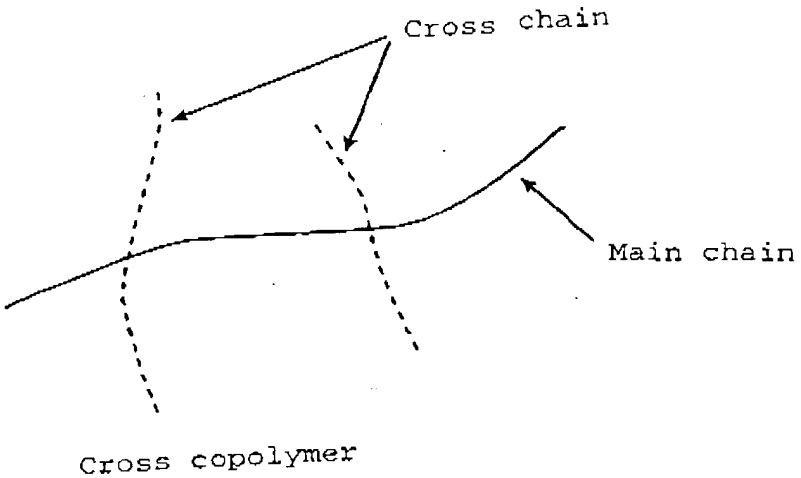
Cross chain
Main chain
Cross copolymer

FIG. 2

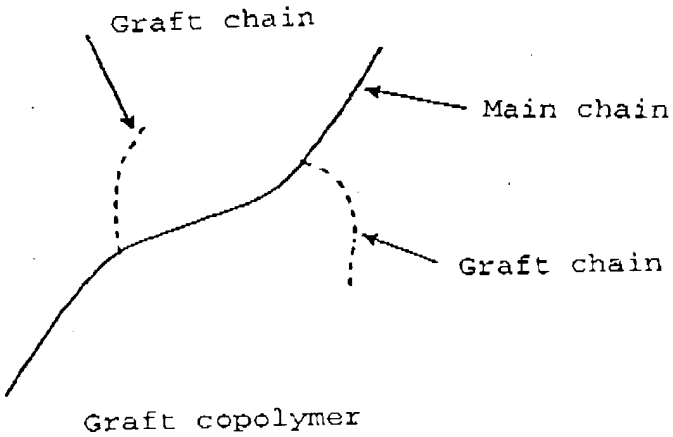
Graft chain
Main chain
Graft chain
Graft copolymer

FIG. 3

Relation between styrene content and melting point

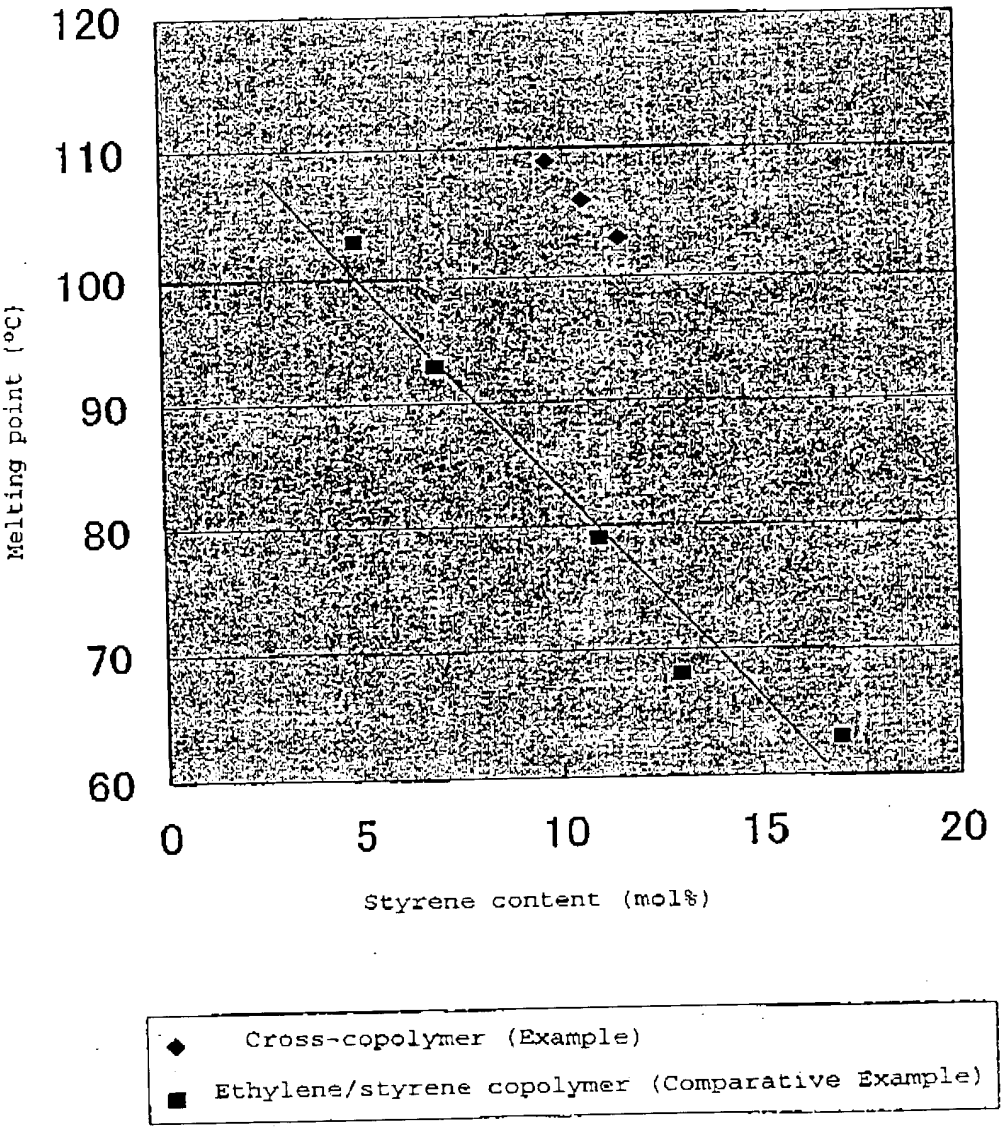

FIG. 4

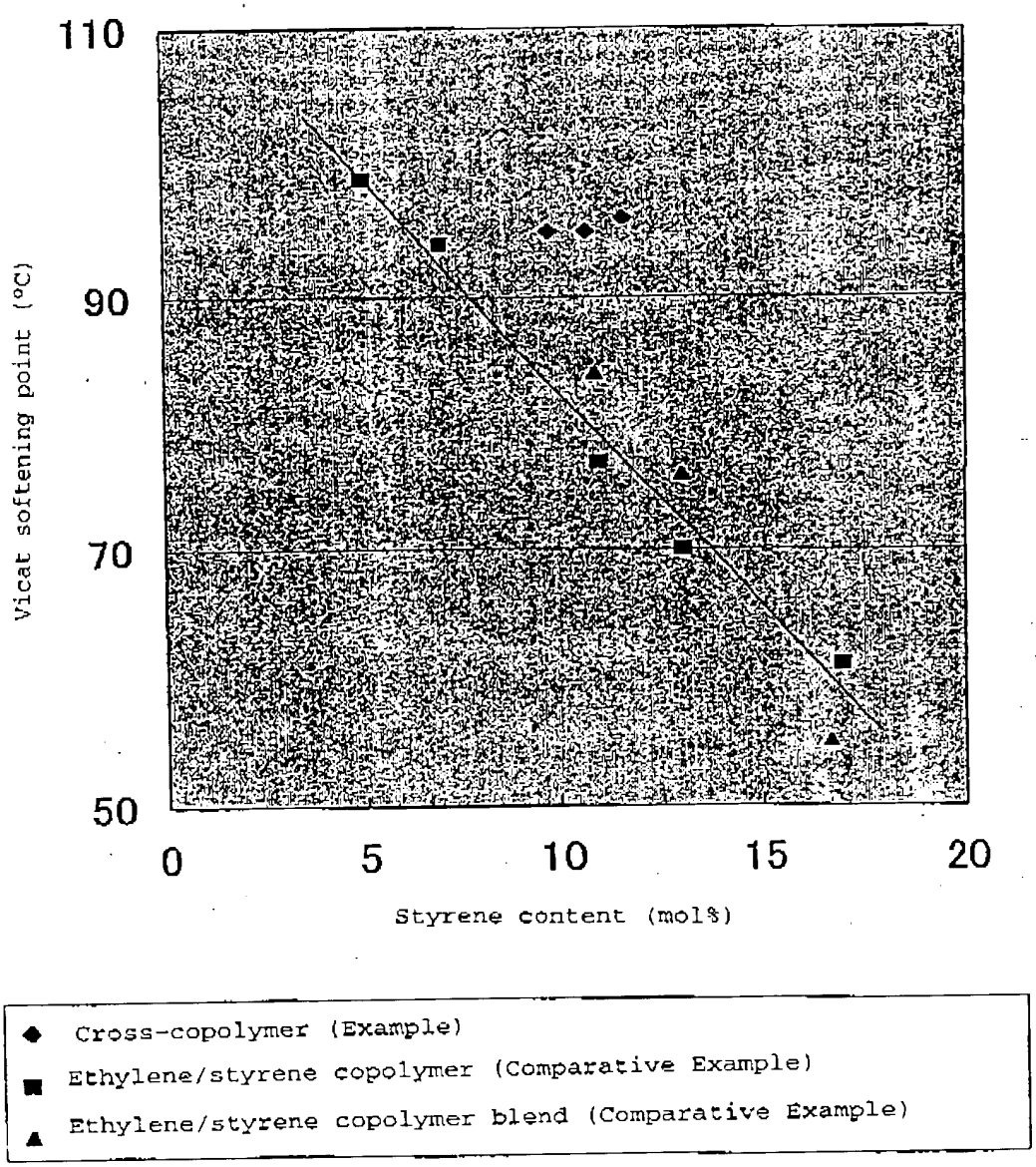
Relation between styrene content and Vicat softening point
110
90
70
50
Vicat softening point (°C)
0
5
10
15
20
Styrene content (mol%)
Cross-copolymer (Example)
Ethylene/styrene copolymer (Comparative Example)
Ethylene/styrene copolymer blend (Comparative Example)

FIG. 5

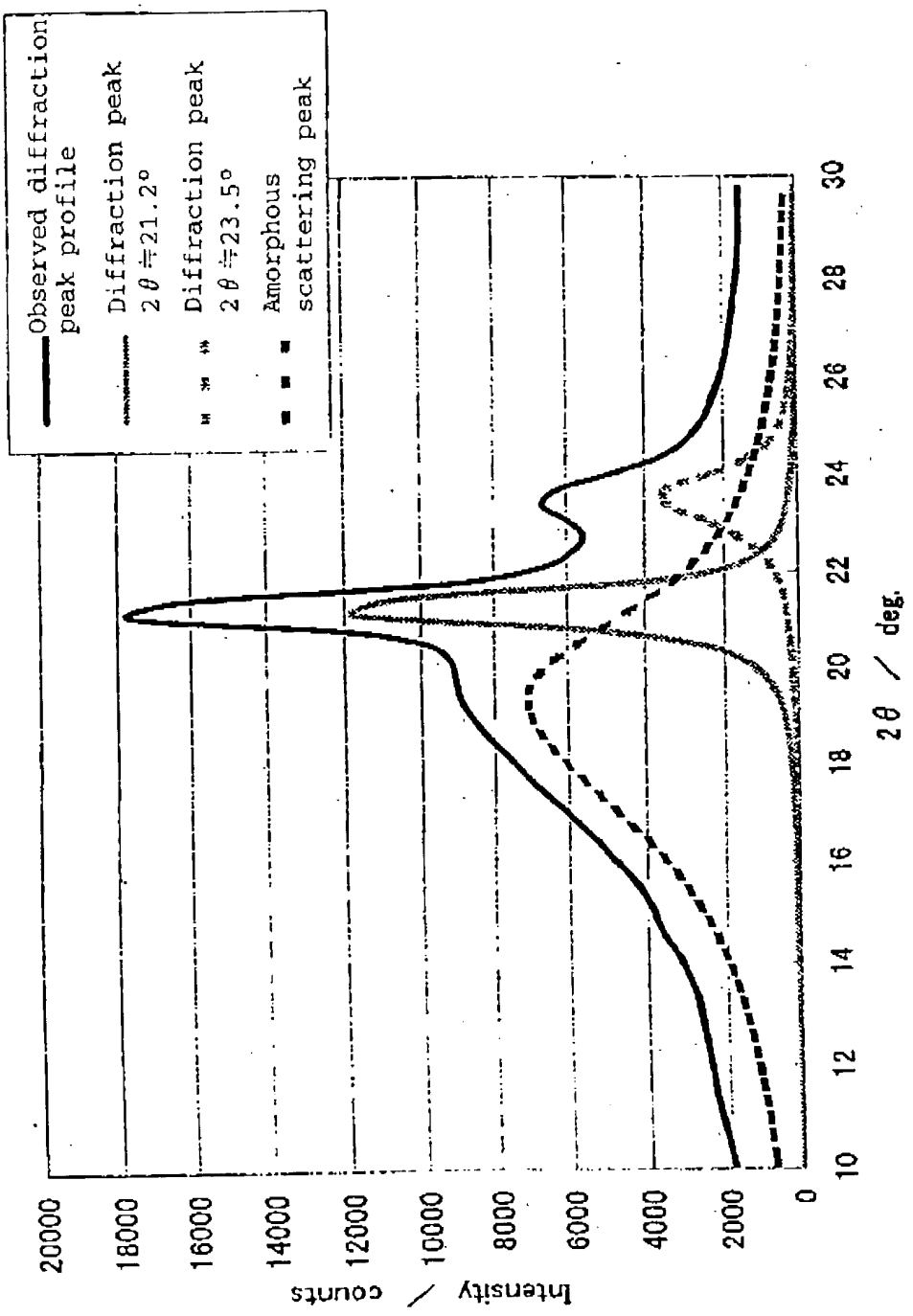
Observed diffraction peak profile
Diffraction peak 2θ≒21.2°
Diffraction peak 2θ≒23.5°
Amorphous scattering peak
Intensity / counts
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
10
12
14
16
18
20
22
24
26
28
30
2θ / deg.

FIG. 6

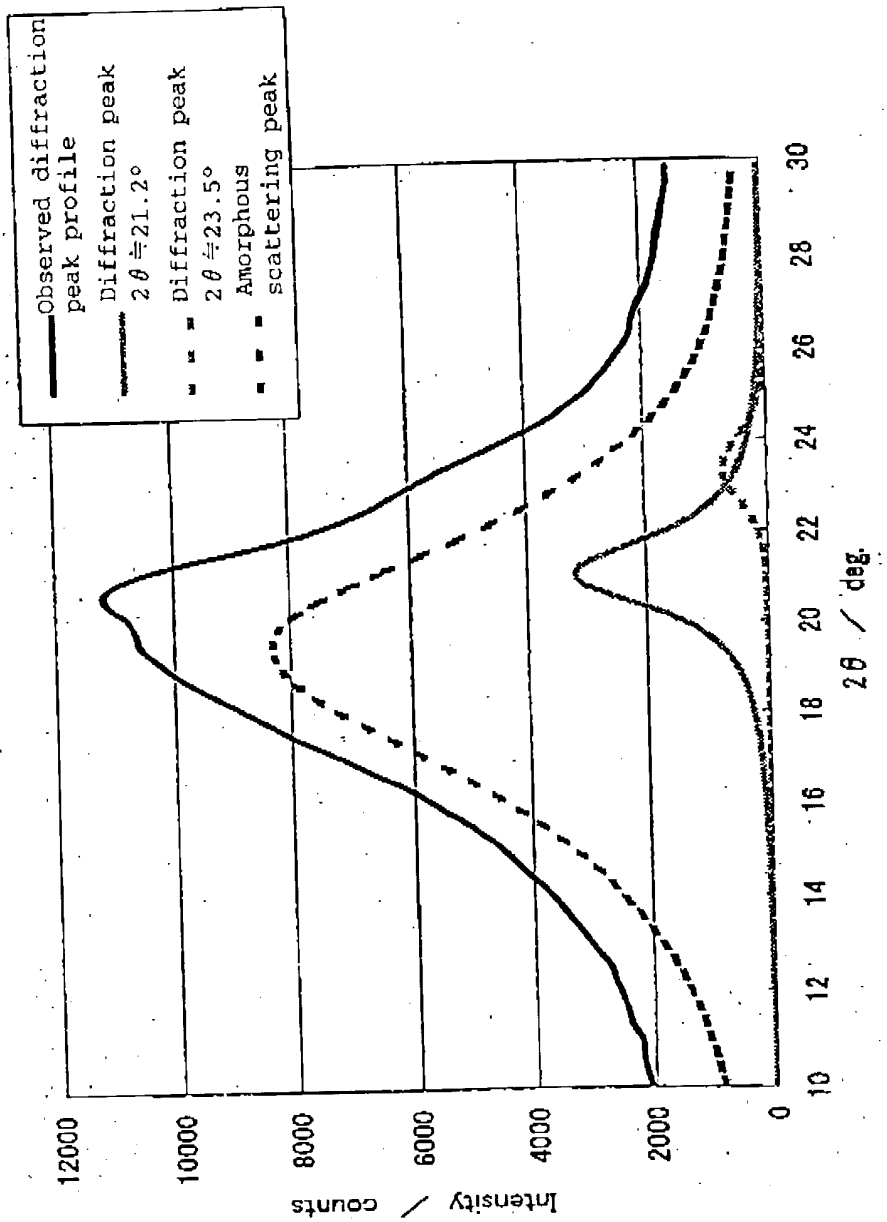
Observed diffraction peak profile
Diffraction peak 2θ≒21.2°
Diffraction peak 2θ≒23.5°
Amorphous scattering peak
Intensity / counts
12000
10000
8000
6000
4000
2000
0
10
12
14
16
18
20
22
24
26
28
30
2θ / deg.

FIG. 7

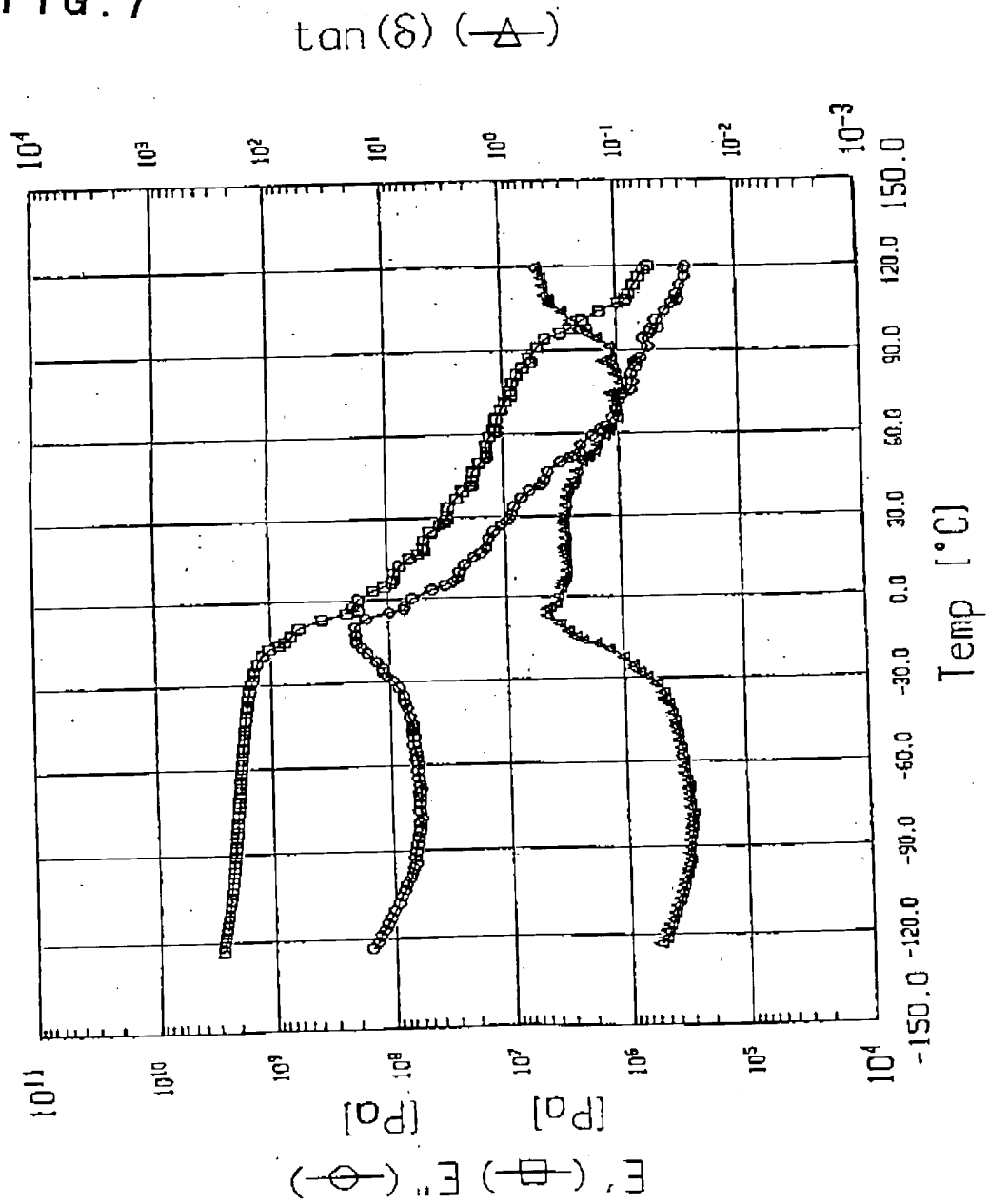
tan(δ) (—△—)
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
150.0
120.0
90.0
60.0
30.0
0.0
-30.0
-60.0
-90.0
-120.0
-150.0
Temp [°C]
10^11
10^10
10^9
10^8
10^7
10^6
10^5
10^4
[Pa]
[Pa]
ε' (—□—) ε'' (—○—)

FIG. 8

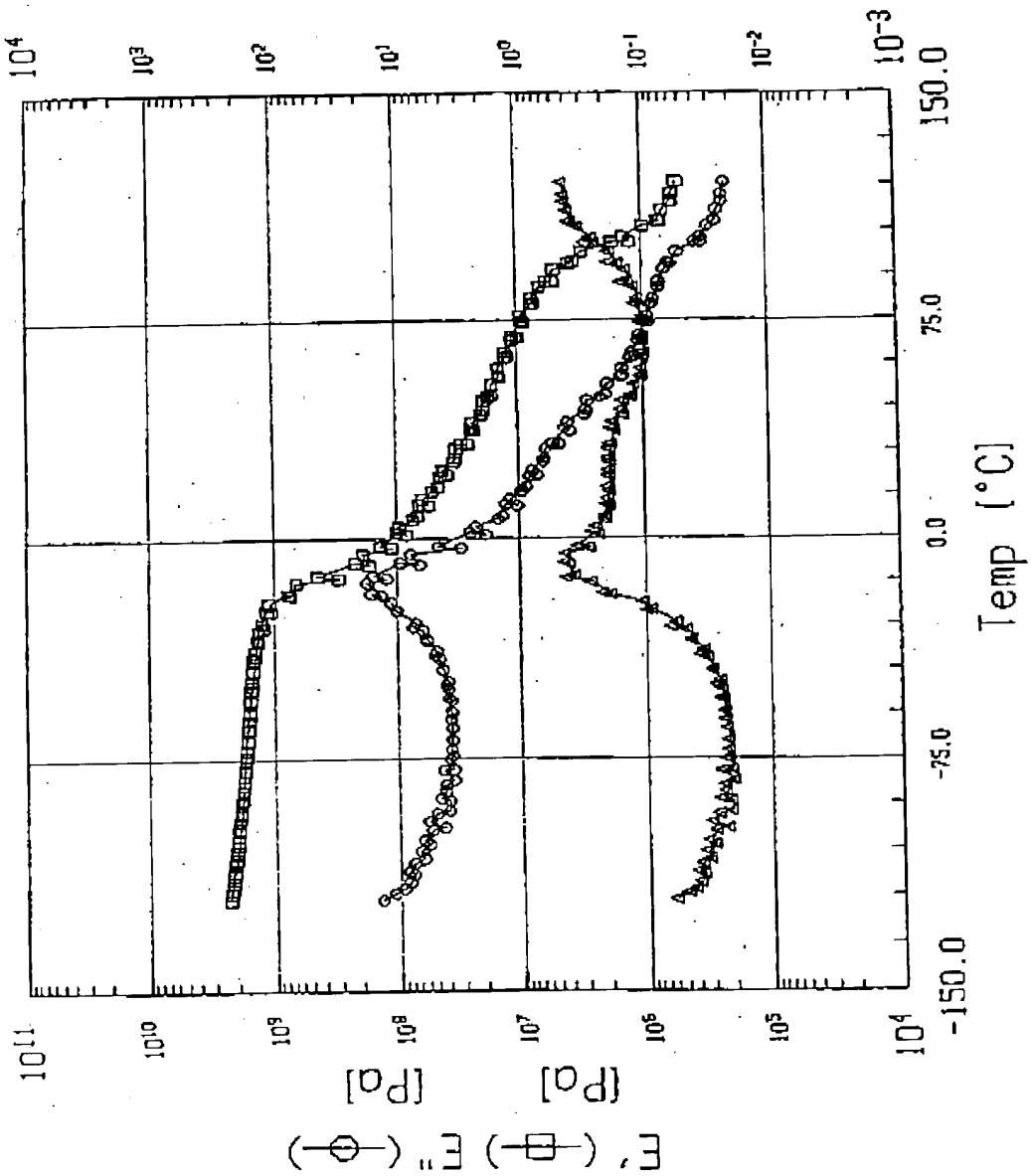
tan(δ) (—△—)
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
150.0
75.0
0.0
-75.0
-150.0
Temp [°C]
10^11
10^10
10^9
10^8
10^7
10^6
10^5
10^4
[Pa]
[Pa]
ε' (—□—) ε'' (—○—)

FIG. 9

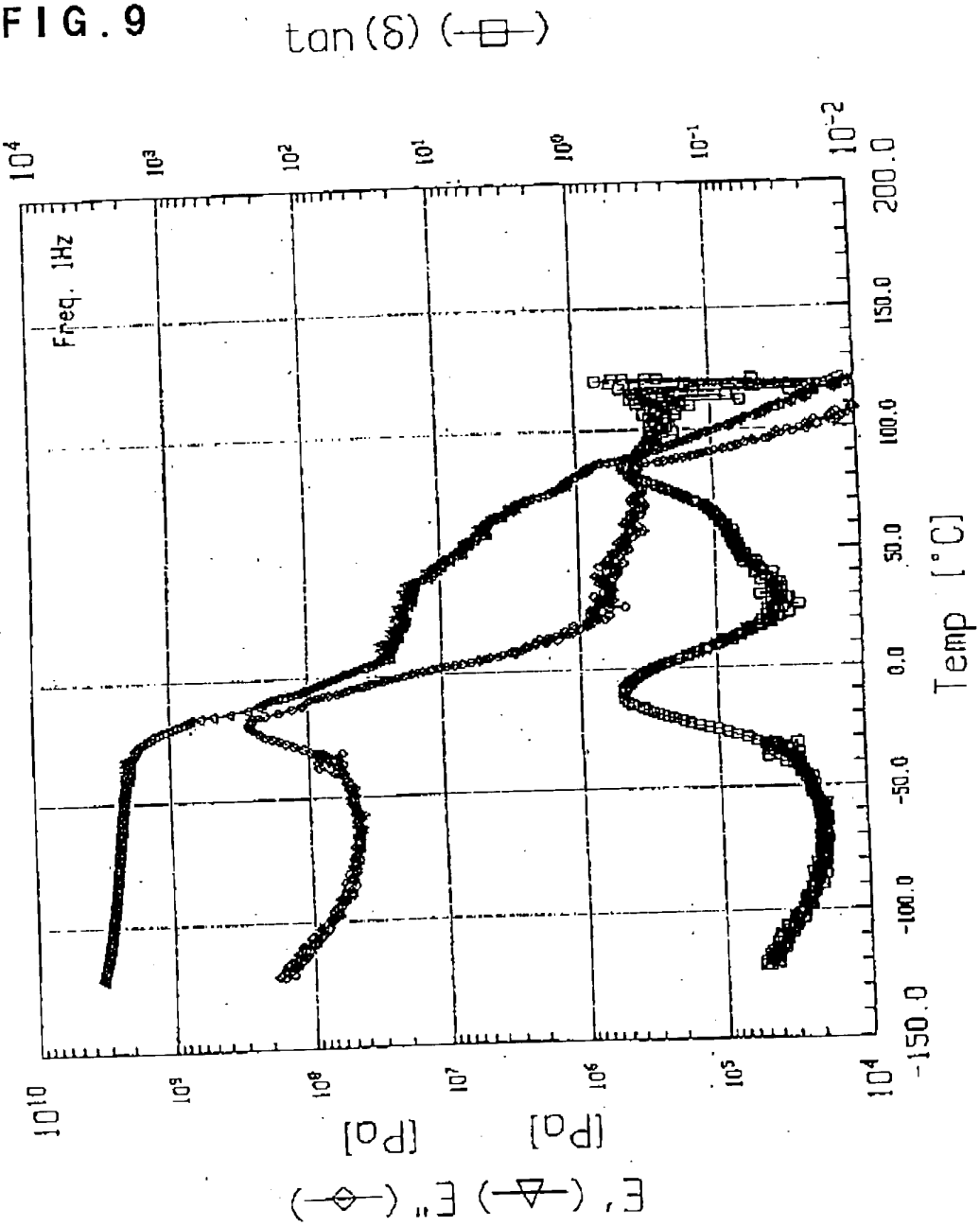
tan(δ) (-□-)
Freq. 1Hz
Temp [°C]
200.0
150.0
100.0
50.0
0.0
-50.0
-100.0
-150.0
[Pa]
[Pa]
ε' (-△-) ε'' (-◇-)

FIG. 10

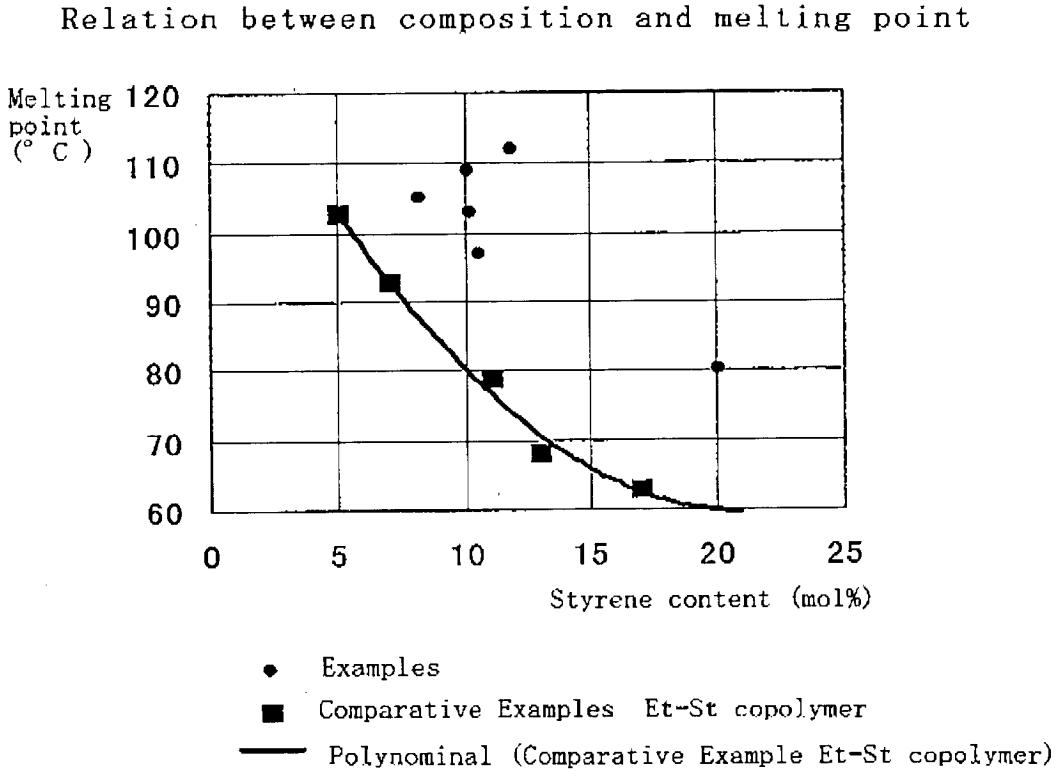
Relation between composition and melting point
Melting point (° C)
120
110
100
90
80
70
60
0
5
10
15
20
25
Styrene content (mol%)
Examples
Comparative Examples Et-St copolymer
Polynominal (Comparative Example Et-St copolymer)

FIG. 11

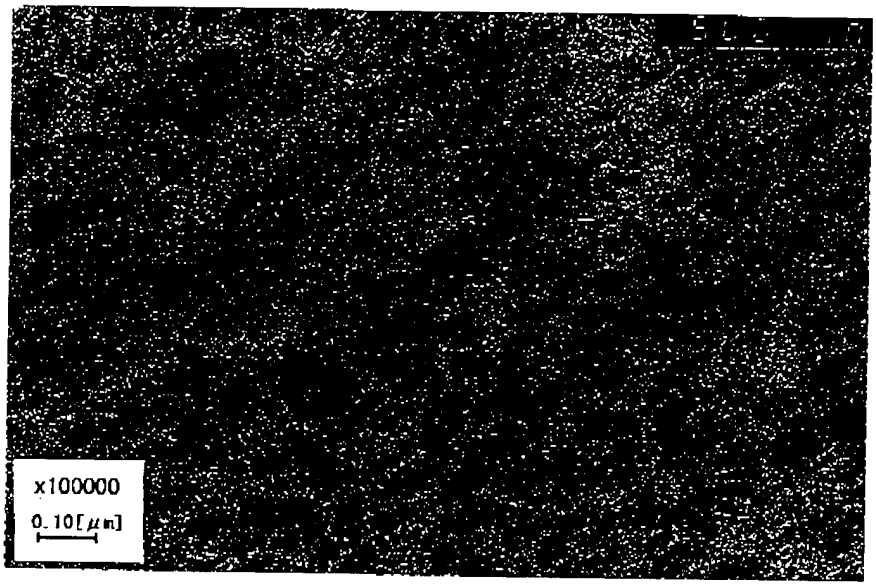


FIG. 12